



## **How SDS Data Have Been Used**



State Data System (SDS) data are essential to NHTSA crash research and traffic safety policy development. SDS provides data not available in any of NHTSA's other data systems. While the Fatality Analysis Reporting System (FARS) only has fatal crash data, SDS includes valuable data on injury and property-damage-only crashes as well. In contrast to the data in the National Automotive Sampling System General Estimates System, the State Data System consists of census data taken directly from police accident reports.

What follows is a partial list of research and evaluation conducted in the last five years using SDS data. (For more SDS-related research, see the *Crash Data Report: 1990-1999*: [http://www-nrd.nhtsa.dot.gov/pdf/nrd-30/NCSA/Rpts/2002/809\\_301/05assocanalysis.pdf](http://www-nrd.nhtsa.dot.gov/pdf/nrd-30/NCSA/Rpts/2002/809_301/05assocanalysis.pdf))

**Preliminary Results Analyzing the Effectiveness of Electronic Stability Control (ESC) Systems (DOT HS 809 790), 9/04**

Jennifer N. Dang; Office of Planning, Evaluation, & Budget

NHTSA's State Data System was used to evaluate the effectiveness of Electronic Stability Control (ESC) systems in reducing single vehicle crashes in various domestic and imported cars and SUVs. SDS allowed examination of crash data from 1997 to 2002 using vehicle identification number information to compare specific make/models of passenger cars and SUVs with ESC versus earlier versions of the same make/models. The preliminary results showed statistically significant reductions in single vehicle crashes in certain passenger cars and SUVs equipped with an ESC system.

[http://www.nhtsa.dot.gov/cars/rules/regrev/evaluate/809790\\_files/809790.pdf](http://www.nhtsa.dot.gov/cars/rules/regrev/evaluate/809790_files/809790.pdf)

**Analysis of the Rollover Propensity of Fifteen-Passenger Vans (DOT HS 809 735), 5/04**

Rajesh Subramanian; NCSA

NHTSA's State Data System was used to assess the rollover propensity of 15-Passenger Vans with increasing occupancy. SDS allowed examination of propensity metrics of 15-passenger vans with other types of passenger vehicles such as cars, SUVs, Pickup Trucks and Minivans. The results showed that the disparity in the risk of rollover between full occupancy and nominal occupancy (driver only) was most pronounced for 15-Passenger Vans as compared to other passenger vehicles.

<http://www-nrd.nhtsa.dot.gov/pdf/nrd-30/NCSA/Rpts/2004/809735.pdf>

**Assessing the Influence of Child Safety Campaigns (DOT HS 809 698), 11/03**

John Kindelberger and Marc Starnes; NCSA

NHTSA's State Data System was used to examine the success of child safety campaigns designed to encourage drivers to seat children age 12 and under in the back seat. SDS enabled examination of child-positioning patterns over the years in airbag and non-airbag vehicles. The results showed children moving from the front seat to the back seat, particularly in airbag vehicles, over the years. This outcome was a validation of the influence of child safety campaigns instituted in the mid-nineties.



<http://www-nrd.nhtsa.dot.gov/pdf/nrd-30/NCSA/RNotes/2003/809-698.pdf>

**New Car Assessment Program; Rollover Resistance (RIN 2127-AI81), 10/03**

Patrick Boyd and Dr. Riley Garrett; NHTSA Office of Rulemaking

This document modified NHTSA's rollover resistance ratings in its New Car Assessment Program (NCAP) to include dynamic rollover tests after considering comments to NHTSA's previous document. The NCAP rollover resistance ratings in the 2004 model year were determined using the system established by this document, and that system was developed in part through analysis of SDS data.

<http://www.nhtsa.dot.gov/cars/rules/rulings/RollFinal/index.html>

**Vehicle Weight, Fatality Risk and Crash Compatibility of Model Year 1991-99 Passenger Cars and Light Trucks (DOT HS 809 662), 10/03**

Charles J. Kahane, Ph.D.; NHTSA Office of Planning, Evaluation & Budget

SDS data from eight states in combination with other data were used to analyze the crash compatibility of cars and light trucks/vans. This database enabled comparison of fatality rates per billion vehicle miles of light cars, heavy cars, pickup trucks, SUVs and vans.

<http://www.nhtsa.dot.gov/cars/rules/regrev/evaluate/pdf/809662.pdf>

**Evaluation of Rear Window Defrosting and Defogging Systems (DOT 809 724), 3/03**

Christina Morgan; NHTSA Office of Planning, Evaluation & Budget

SDS files were used to examine whether there were proportionately fewer backing-up and changing-lane crashes involving cars with rear-window defoggers than crashes involving cars without rear-window defoggers. The main analyses found that rear window defoggers have no effect on changing-lane and backing-up crashes in conditions when they are most likely used (when raining or snowing, during early morning, or during winter).

<http://www.nhtsa.dot.gov/cars/rules/regrev/evaluate/rearwindow-report/Index.htm>

**The Effectiveness of Head Restraints in Light Trucks (DOT HS 809 247), 4/01**

Marie C. Walz; NHTSA Evaluation Division

The evaluation was based on SDS data from eight states that report vehicle damage location, make and model, and vehicle identification number. Results indicated that head restraints reduce overall injury risk in light trucks in rear impacts by 6 percent.

<http://www.nhtsa.dot.gov/cars/rules/regrev/evaluate/pdf/809247.pdf>

**A Preliminary Assessment of the Crash-Reducing Effectiveness of Passenger Car Daytime Running Lamps (DRLs) (DOT HS 808 645), 6/00**

Joseph Tessmer; NCSA

The effectiveness of daytime running lamps, DRLs, was examined using three different crash types. Data from four SDS states (Florida, Maryland, Missouri, and Pennsylvania)



and two statistical approaches were used. In general, vehicles equipped with DRLs were no less likely to be involved in fatal crashes. However, a statistically significant 7 percent reduction in non-fatal two-vehicle crashes during daytime hours was observed for vehicles equipped with DRLs.

[http://www-nrd.nhtsa.dot.gov/pdf/nrd-30/NCSA/Rpts/2000/DRL7\\_RPT.pdf](http://www-nrd.nhtsa.dot.gov/pdf/nrd-30/NCSA/Rpts/2000/DRL7_RPT.pdf)

All of this and more has been accomplished with fewer than half of the states participating in the State Data System. Expanding the State Data System by adding data from new states will serve to enlarge the pool of available data, increasing the value, scope and accuracy of traffic safety research.

**If you would like more information about how State Data System data has been used or have other questions about SDS, please contact Barbara Rhea, Program Manager, or Gary Rinehart, Technical Manager.**

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